CLAIM AMENDMENTS:

Please amend Claim 24 as follows:

24. (Currently Amended) A method for producing a fine hollow structured member on a substrate comprising:

a step of forming a positive-working photosensitive material layer on a substrate;

a step of heating ~~the layer of~~ said positive-working photosensitive material layer thereby crosslinking said positive-working photosensitive material layer;

a step of executing an irradiation with an ionizing radiation of a first wavelength region capable of decomposing said crosslinked positive-working photosensitive material layer on a predetermined area of said crosslinked positive-working photosensitive material layer; and

a step of removing, by a development, the area irradiated by the ionizing radiation of said crosslinked positive-working photosensitive material layer from the substrate, thereby obtaining a mold pattern formed by a non-irradiated area by the ionizing radiation of said crosslinked positive-working photosensitive material layer;

a step of forming a covering resin layer, formed by a negative-working photosensitive material sensitive to a second wavelength region, in a position covering at least a part of the mold pattern on said substrate;

a step of irradiating said covering resin layer with an ionizing radiation of the second wavelength region thereby hardening said covering resin layer; and

a step of removing, by dissolution, the mold pattern covered by said hardened

covering resin layer from the substrate thereby obtaining a hollow structure corresponding to said mold pattern;

wherein said positive-working photosensitive material layer includes a ternary copolymer containing methyl methacrylate as a main component, methacrylic acid as a thermally crosslinkable factor and a factor for expanding a sensitivity region for said ionizing radiation; and

said first wavelength region and said second wavelength region do not overlap mutually.

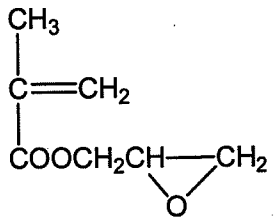
25. (Original) A method for producing a fine hollow structured member according to Claim 24, wherein the crosslinking by said heat treatment is caused by a dehydration condensation reaction.

26. (Original) A method for producing a fine hollow structured member according to Claim 24, wherein said factor for expanding the sensitivity region is methacrylic anhydride.

27. (Original) A method for producing a fine hollow structured member according to Claim 26, wherein said ternary copolymer includes methacrylic acid in a proportion of 2 to 30 wt.% with respect to said copolymer, and is prepared by a radical polymerization of cyclized polymerization type at a temperature of 100 to 120°C employing an azo compound or a peroxide as a polymerization initiator.

28. (Original) A method for producing a fine hollow structured member according to Claim 26, wherein said ternary copolymer has a weight-averaged molecular weight within a range from 5,000 to 50,000.

29. (Original) A method for producing a fine hollow structured member according to Claim 24, wherein said factor for expanding the sensitivity region is glycidyl methacrylate represented by a following formula:

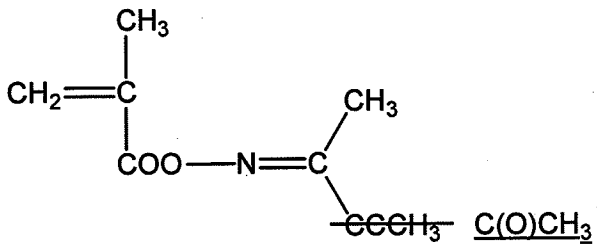


30. (Original) A method for producing a fine hollow structured member according to Claim 29, wherein said ternary copolymer includes methacrylic acid in a proportion of 2 to 30 wt.% with respect to said copolymer, and is prepared by a radical polymerization at a temperature of 60 to 80°C employing an azo compound or a peroxide as a polymerization initiator.

31. (Original) A method for producing a fine hollow structured member according to Claim 29, wherein said ternary copolymer has a weight-averaged molecular weight within a range from 5,000 to 50,000.

32. (Previously Presented) A method for producing a fine hollow structured

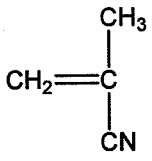
member according to Claim 24, wherein said factor for expanding the sensitivity region is methyl 3-oxyimino-2-butanone methacrylate represented by a following formula:



33. (Original) A method for producing a fine hollow structured member according to Claim 32, wherein said ternary copolymer includes methacrylic acid in a proportion of 2 to 30 wt.% with respect to said copolymer, and is prepared by a radical polymerization at a temperature of 60 to 80°C employing an azo compound or a peroxide as a polymerization initiator.

34. (Original) A method for producing a fine hollow structured member according to Claim 32, wherein said ternary copolymer has a weight-averaged molecular weight within a range from 5,000 to 50,000.

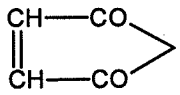
35. (Original) A method for producing a fine hollow structured member according to Claim 24, wherein said factor for expanding the sensitivity region is methacrylonitrile represented by a following formula:



36. (Original) A method for producing a fine hollow structured member according to Claim 35, wherein said ternary copolymer includes methacrylic acid in a proportion of 2 to 30 wt.% with respect to said copolymer, and is prepared by a radical polymerization at a temperature of 60 to 80°C employing an azo compound or a peroxide as a polymerization initiator.

37. (Original) A method for producing a fine hollow structured member according to Claim 35, wherein said ternary copolymer has a weight-averaged molecular weight within a range from 5,000 to 50,000.

38. (Original) A method for producing a fine hollow structured member according to Claim 24, wherein said factor for expanding the sensitivity region is fumaric anhydride represented by a following formula:



39. (Original) A method for producing a fine hollow structured member according to Claim 38, wherein said ternary copolymer includes methacrylic acid in a proportion of 2 to 30 wt.% with respect to said copolymer, and is prepared by a radical polymerization at a temperature of 60 to 80°C employing an azo compound or a peroxide as a polymerization initiator.

40. (Original) A method for producing a fine hollow structured member

according to Claim 38, wherein said ternary copolymer has a weight-averaged molecular weight within a range from 5,000 to 50,000.

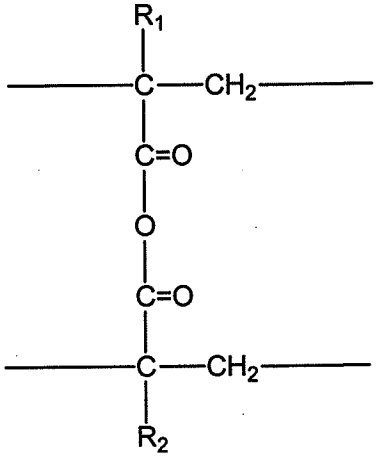
41. (Currently Amended) A method for producing a fine hollow structured member according to Claim 24, wherein a positive-working photosensitive material includes a photodegradable resin having at least a carboxylic acid anhydride structure.

42. (Previously Presented) A method for producing a fine hollow structured member according to Claim 41, wherein the positive-working photosensitive material is an acrylic resin which is subjected to an intermolecular crosslinking through the carboxylic acid anhydride structure.

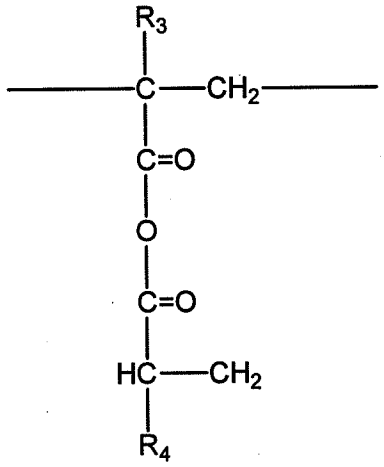
43. (Previously Presented) A method for producing a fine hollow structured member according to Claim 42, wherein the positive-working photosensitive material is an acrylic resin having an unsaturated bonding in a side chain.

44. (Currently Amended) A method for producing a fine hollow structured member according to Claim 42, wherein the positive-working photosensitive material includes a structural unit represented by following general formulas 1 and 2:

general formula 1



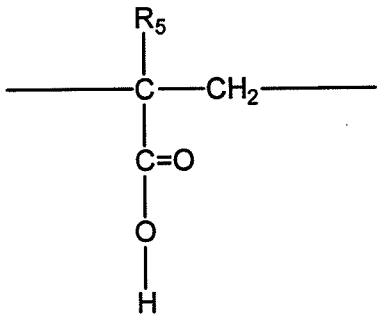
general formula 2



wherein R_1 to R_4, which may be mutually same or different, each represents a hydrogen atom or an alkyl group with 1 to 3 carbon atoms.

45. (Previously Presented) A method for producing a fine hollow structured member according to Claim 44, wherein the positive-working photosensitive material includes a structural unit represented by a following general formula 3:

general formula 3



wherein R_5 represents a hydrogen atom or an alkyl group with 1 to 3 carbon atoms.

46. (Previously Presented) A method for producing a fine hollow structured member according to Claim 24, wherein the first wavelength region is of a shorter wavelength than the second wavelength region.

47. (Previously Presented) A method for producing a fine hollow structured member according to Claim 24, wherein said negative-working photosensitive material includes an epoxy resin as a principal component.

48. (Previously Presented) A method for producing a liquid discharge head comprising steps of forming a mold pattern with a removable resin in a portion where a liquid flow path is to be formed on a substrate on which a liquid discharge energy generating element is

formed; coating and hardening a covering resin layer on said substrate so as to cover said mold pattern; and removing by dissolution said mold pattern thereby forming a liquid flow path having a hollow structure;

wherein said liquid flow path is formed by a method for producing a fine hollow structure according to Claim 24

49. (Original) A method for producing a liquid discharge head according to Claim 48, wherein a developing liquid containing at least:

1) a glycol ether having 6 or more carbon atoms and miscible with water in an arbitrary ratio;

2) a nitrogen-containing basic organic solvent; and

3) water

is used for developing said mold pattern.

50. (Previously Presented) A method for producing a liquid discharge head according to Claim 49, wherein said glycol ether is ethylene glycol monobutyl ether and/or diethylene glycol monobutyl ether.

51. (Original) A method for producing a liquid discharge head according to Claim 50, wherein said nitrogen-containing basic organic solvent is ethanolamine and/or morpholine.